Program Director Positions Available in Dynamic System Modeling, Sensing and Control (DSMSC), Structural Systems and Hazards Mitigation of Structures (SSHM), and Solid Mechanics and Materials Engineering (SMME), Division of Civil and Mechanical Systems (CMS), Directorate for Engineering at National Science Foundation

Dear Colleague:

The Directorate for Engineering (ENG) announces a nationwide search to fill Program Director positions at the National Science Foundation (NSF) in the Division of Civil and Mechanical Systems (CMS).

The CMS Division staff includes 12 Program officers who manage an annual budget of over $55 million in research, and construction of the $81.8 million George E. Brown, Jr. Network for Earthquake Engineering Simulation (NEES) to be completed between FY 2000 and FY 2004. The organization of the CMS Division is described at http://www.eng.nsf.gov/cms/. The CMS Division enables knowledge creation and intellectual growth in construction, geotechnical and geo-environmental engineering, structures, dynamics and control, sensors, mechanics, materials and surface engineering, tribology, information technology and infrastructure systems, and reduction of risks induced by earthquakes and other natural, terrorist, and technological hazards. The Division encourages cross-disciplinary research at the intersections and beyond the boundaries of traditional disciplines to promote discoveries and capitalize on emerging fields of science and engineering including nanotechnology, biotechnology, and information technology.

This letter encourages expressions of interest from people with expertise in Dynamic System Modeling, Sensing and Control (DSMSC), Structural Systems and Hazards Mitigation of Structures (SSHM), or Solid Mechanics and Materials Engineering (SMME).

The Dynamic System Modeling, Sensing and Control (DSMSC) program supports research on the fundamental engineering concepts and mathematical theories for modeling, analysis, simulation and control of complex, nonlinear dynamic systems, including study of new control methods, acoustics, vibrations and kinematics relationships. This program also invests in research on information technologies as related to smart and autoadaptive civil and mechanical systems, including study of new technologies for sensing and acquiring information; multiple and intelligent system functionality; and modeling, synthesis, simulation, and prototyping of intelligent systems and their components. This research will advance the knowledge base for integration of sensors, actuators, controllers, and power sources for autoadaptive applications.

The Structural Systems and Hazards Mitigation of Structures (SSHM) program supports research on new technologies for improving the behavior and response of structural systems subjected to natural and man-made hazards including earthquake engineering; fundamental research on safety and reliability of constructed systems; innovative developments in analysis; and model based simulation of structural behavior and response, including soil-structure interaction; design concepts that improve structure performance and flexibility; and application of new control techniques for structural systems. The program has a strong component that deals with dynamic and impact loading.

The Solid Mechanics and Materials Engineering (SMME) program links the expertise of analytical, computational and experimental solid mechanics with materials and surface engineering to understand, characterize, analyze, design and control the mechanical properties and performance of materials and devices. The program supports basic engineering research into deformation, fracture, fatigue, friction, wear and corrosion of all types of materials, including composites, nano-structured materials, , and coatings and surface modification for service under extreme conditions. The program also supports experimental and analytical investigations and simulation modeling of material microstructures and their connections to nano-, meso- and macro-scale structural behavior. The program is directed collaboratively by two program directors with overlapping expertise, one with primarily mechanics expertise and the other with primary expertise in surface and materials engineering. A candidate for the latter position is being sought by this letter.

The NSF environment is very demanding and exciting, and Program Directors have a tremendous opportunity to help shape the research agenda in very significant ways. NSF Program Directors bear the primary responsibility for carrying out the Agency's overall mission: to support innovative and merit-reviewed activities in research and education that are fundamental to the nation's well-being and national security. To discharge this responsibility well requires not only domain knowledge, but also a commitment to high standards, a considerable breadth of interest and receptivity to new ideas, a strong sense of fairness, and a high degree of personal integrity. NSF Program Directors are responsible for providing stewardship of integrated research and education in a particular discipline, a set of disciplines, and/or across disciplines within the context of agency vision, mission, and goals, and within the framework of guiding legislation and agency policies and resources.

The DSMSC position requires an engineering Ph.D. degree or equivalent experience in dynamic systems and/or control systems. The SSHM position requires a Ph.D. degree or equivalent experience in structural engineering. The SMME position requires a Ph.D. degree or equivalent experience mechanical, materials or surface engineering with focus on mechanical properties of materials . All positions also require six or more years of successful research, administration, and/or managerial experience pertinent to the position. All appointees are expected to function both within specific program boundaries as well as in a team mode within virtual organizations in the Directorate, across the Foundation, and with other Federal and State government agencies and private-sector organizations as necessary. Periodic appointments to leadership of inter-divisional, inter-directorate and interagency programs may be made.

The Program Directors recruited under this announcement will be appointed under the Visiting Scientist/Engineer or the Intergovernmental Personnel Act (VSE or IPA rotator" position), as a Temporary Federal Employee, or as a permanent Federal Employee. The specific arrangement will be decided on an individual basis. The preferred starting date for these positions will be in August, 2002. However, for the SSHM and SMME positions consideration may be given for a January, 2003 start date. NSF is particularly interested in attracting qualified candidates from under under-represented groups (women and minorities) to these positions.

Please send nominations, statements of interest, and resumes regarding the DSMSC Program Director position to:

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Formal consideration of applications for each position will commence immediately and will continue until a successful candidate has been identified.

Please consider spending a part of your career at NSF. If such an opportunity is difficult to arrange now, keep the idea alive and reconsider it in the future. Working as part of the NSF team of Program Directors will change the way you view the world, and you will be serving your technical community and the Nation. NSF encourages qualified people to apply from groups underrepresented in the engineering community. Please convey this message to your colleagues who have a vision for the opportunities facing engineering in education and research, who would make a strong contribution to the work of the Directorate for Engineering, and who could meet the stimulating challenges of an appointment in the Foundation.

Sincerely,

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